

Claims

- [c1] A method of purifying domestic waste water on site, the method comprising the steps of:
collecting the wastewater;
exposing the waste water to an aerobic environment;
exposing the waste water to an anaerobic environment;
precipitating matter from the waste water whereby a supernatant water strata is formed;
extracting a supernatant layer from the waste water;
and
disinfecting the resultant supernatant layer during extraction.
- [c2] The method of claim 1 further comprising the step of filtering the supernatant layer.
- [c3] The method of claim 1 further comprising the step of ozonating the supernatant layer.
- [c4] The method of claim 2 further comprising the step of ozonating the supernatant layer.
- [c5] The method of claim 1 wherein the step of precipitating matter from the waste water is conducted for a period between 60 and 120 minutes.

- [c6] The method of claim 1 wherein the method is conducted in situ.
- [c7] The method of claim 1 wherein the waste water is collected in a single holding tank.
- [c8] The method of claim 8 wherein the exposure to anaerobic and aerobic environments takes place in the single holding tank.
- [c9] The method of claim 8 wherein the precipitation takes place in the single holding tank.
- [c10] The method of claim 7 wherein the extracted supernatant is stored in a separate holding tank.
- [c11] The method of claim 10 wherein stored supernatant is retreated.
- [c12] The method of claim 7 further comprising the steps of:
providing a mixing loop in fluid communication with the holding tank;
providing a mixing block in fluid communication with the mixing loop; and providing a gas induction system in fluid communication with the mixing block whereby waste water flows through the mixing loop from the holding tank into the mixing block where it is exposed to the aerobic and anaerobic environments prior to the step

of precipitating matter from the waste water and extracting the supernatant.

[c13] The method of claim 7 further comprising the step of initiating and terminating each step by a programmable logic controller.

[c14] The method of claim 7 further comprising the step of initiating and terminating each step by a timer and relay apparatus.

[c15] The method of purifying domestic waste water on site comprising the steps of:
collecting the wastewater;
detoxifying the waste water in an aerobic environment;
detoxifying the waste water in an anaerobic environment;
precipitating matter from the waste water for 60 to 120 minutes whereby a supernatant water strata is formed;
filtering the supernatant layer;
ozonating the supernatant layer; and
extracting a supernatant layer from the waster water.